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Route To:

Subject: Potential Insect and Disease Prevention/Suppression Projects, Reserve Ranger District

To: Forest Supervisor, Gila National Forest

On August 9, Dave Conklin of our staff met with Laura Vallejos (Forest Silviculturist) and Travis Vigil (Reserve RD) to examine three potential insect and disease prevention/suppression project areas on the Reserve Ranger District. The three areas tentatively proposed by Laura are each located in the Six Shooter-Black Deer project area, 15-20 miles southeast of Reserve. These areas were designated in a NEPA decision for thinning of small diameter trees (< 9 inches dbh). This letter describes the condition of these areas and includes our recommendations.

Area 1 (250 acres) is predominantly mixed-conifer forest on moderately steep north slopes (elevation 8000 to 8800 feet). The majority of this area has never been logged or thinned, although the main ridgetop in the central portion of the unit was selectively harvested in the 1970s. Douglas-fir, white fir, and ponderosa pine are the major tree species; southwestern white pine is present as a minor component, and aspen clones occur in a few areas. Basal area averages more than 120 ft^2/acre and occasionally exceeds 200 ft^2. Stocking of saplings and poles is high, with overall densities of well over 500 trees/acre in most of the area. Site quality is good, with estimated site indices of 80 to 90.

Douglas-fir dwarf mistletoe is extensive here, with probably the majority of the area affected. Ponderosa pine dwarf mistletoe is also present, but tends to occur in more limited infection centers. Some recent (2005) budworm defoliation was observed on the white fir. Scattered, recent tree mortality associated with various bark beetles was observed in all major conifers, particularly white fir. Older mortality has contributed to high down fuel-loading, typical of unmanaged mixed-conifer forests.

This area is considered restricted habitat for the Mexican spotted owl, and thinning would be limited to stems less than 9" dbh. Prescribed burning is planned following the mechanical treatment to reduce fuel-loading.

Area 2 (215 acres) includes mixed-conifer forest on a moderately steep north slope (southern half of area), and a gentler "bench" that is predominantly ponderosa pine (northern half). Elevations here range from about 7600 to 8200 feet; site quality and basal areas are both somewhat lower than in Area 1. Portions of this area were logged about 30 years ago, but no pre-commercial thinning has occurred.

In the mixed conifer portion, extensive dwarf mistletoe infestation occurs in both the Douglas-fir and ponderosa pine. Infection is especially severe in the Douglas-fir (the most abundant tree species here), giving the entire hillside an unhealthy appearance. There is a relatively healthy

white fir component, but much less white pine than in Area 1. We did not examine the northern half of the unit, but Laura indicated that the ponderosa pine there is severely infected.

Area 3 (316 acres) is a mature, uneven-age ponderosa pine forest (elevation 7700-7900 feet), with major components of gambel oak (often tree-size) and alligator juniper in the understory. Site quality is moderate, with an average site index of about 70. The pine understory was thinned about 25 years ago. Basal areas generally range from about 70 to 150 ft^2, with understory stocking quite variable. Pine dwarf mistletoe is scattered throughout the area, light in most portions, but extensive in the southwest quadrant. This area is part of a designated Mexican spotted owl PAC.

Recommendations. We agreed that treatment (thinning) of Area 2 should be a low priority because of the severity of the mistletoe and a shortage of suitable "leave trees." In general, stands with such high disease levels are difficult to treat effectively; resources are probably better spent working in healthier areas.

Both Areas 1 and 3 would be acceptable for insect and disease prevention/suppression projects. The overall "need" of Area 1 is greater because of higher stand densities; this area also presents a good opportunity to increase the proportion of ponderosa pine and white pine. On the other hand, much of this area is relatively inaccessible and thinning slash could be problematic from a fuels standpoint, especially since fuel-loading is already high

Some portions of Area 3 (which is more accessible than Area 1) need little (if any) thinning now, although the majority of this area could benefit from understory thinning. Prescribed burning of this area (either after thinning or in lieu of thinning) would provide a reduction in dwarf mistletoe, assuming significant crown scorch occurs.

Tentative prescriptions for these areas call for 13-foot average spacing for trees < 5" dbh, and 17-foot spacing for trees 5 to 9". We agree that these variable spacings would be appropriate for retaining more young trees, which have irregular (usually patchy) distributions in these stands. For addressing dwarf mistletoe, we recommend removing all visibly-infected trees < 5", and retaining lightly infected (DMR 1-2) trees > 5" where these are the best available leave trees.

Thinning of Area 3 would best be conducted between July 15 and December 15 to minimize the potential for an outbreak of *Ips* bark beetles; this timeframe would be less critical for Area 1, where most of the slash would be Douglas-fir and white fir.

Please contact us if you have questions about this evaluation or need additional assistance developing a project proposal.

/s/ David A. Conklin (for) Debra Allen-Reid
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